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# Adoption of E-Commerce in Johannesburg Retail Sector

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## Abstract

The rapid expansion of electronic commerce or e-commerce in the recent years is increasingly blurring the boundary between "conventional" and "electronic" commerce. Despite the rapid growth, e-commerce needs improvements for better adoption and efficient usage. This paper examined forces driving the adoption and usage of e-commerce in retail sectors within Johannesburg, South Africa. The study used quantitative approach and collected data from about 100 business owners and consumers in Johannesburg North using structured questionnaire. The study revealed that the internal driving force has contributed to the adoption of e-commerce, including initiation by owners, clients and service providers. It was observed that the business owners are being driven to adopt e-commerce (i) due to recommendations from business associates, (ii) for competitive advantage, and (iii) to cater for customers' online preferences. They mostly reported using Internet and websites to promote their products and search for new or potential suppliers, as well as to order goods from suppliers and send electronic invoices to customers.

## Keywords
E-commerce, Retail sector, SMEs, Johannesburg and South Africa.

## 1. Introduction

In a conventional commerce, even a single transaction takes a long time to mature, for instance a manufacturer sells the product to a whole seller through a middleman, then the whole seller will sell the product to different retailers and finally the customer will purchase the product from the retailer. This chain will introduce more middleman if the difference between supplier and consumer is very far apart (Yadav and Sharma, 2014). This method is very time consuming and adds some margin of cost and eventually raise the price of the commodity which would place an extra pressure on the buying power of the customer. To speed-up this process and lower the add-on-value in the cost of commodity or to reduce the pressure on the buying power of the consumer, one requires e-commerce (Yadav and Sharma, 2014). However, the adoption and usage of e-commerce needs proper planning, resources and infrastructure, as well as conducive environment.

Since its conception, e-commerce has taken the conventional sector by surprise. It is developing a whole digital economy, which has tremendous promise and is radically transforming the way business is conducted. The modern-day e-commerce started with the advent of exchange of information over the Internet (Tornatzky and Fleischer, 1990; Whiteley, 2000). It includes delivery of products or services and payments through any online service platform, which enables the automation of business transactions, increases delivery speed and reduced service cost (Kalakota and Whinton, 1997). It is being adopted in every business, from large manufacturing companies, retailers and service industry to small off-site businesses. It is also known as e-business, web advertising and e-showcasing to name the few (Chaffey et al., 2006).

Small and medium enterprises (SMEs) are essential driving force for economic growth and job creation and play an important role as innovation centers (OECD, 2013; BER, 2016; Rathaba, 2019, SEDA, 2020). The adoption of e-commerce can provide several opportunities for SMEs, such as improved external communication, enhanced company image and brand, increased processing speed, extended market reach, reduced costs, reduced physical limitations of time and space (Jahanshahi et al., 2013; Rahayu and Day, 2017). However, there are some associated barriers, such as security and privacy issues, lack of required infrastructure and knowledge (Savrul et al., 2014; Rahayu and Day, 2017). In 2014, the government of South African established the Ministry of Small Business Development to recognize

the contribution of SMEs and acknowledge the specialized support that will be required to facilitate this sector (BER, 2016; Mowers, 2017).

Several studies have analyzed the adoption of e-commerce in developing countries (Rathaba, 2019; Bvuma, 2020; SEDA, 2020). The studies suggest that organizations in developing countries are facing some challenges to fully reap its benefits to the fullest. Few studies have also suggested the ways to deal with the e-commerce barriers (Ghobakhloo et al., 2011; Zaied, 2012; Lambert and Davidson, 2013; Rahayu and Day, 2017; Goga et al., 2019). Iddris (2012), Rathaba (2019) and Bvuma (2020) had conducted studies to understand some of the factors impacting the adoption of e-commerce in developing countries as it is important to first understand the factors contributing towards its adoption (Savrul et al., 2014; Goga et al., 2019). Johnson and Iyamu (2019) identified several factors that are important for the adoption of e-commerce in South African retail grocery store, including business drivers, alliance of actors, stock of knowledge and assimilation of processes.

The purpose of this study was to examine the status of adoption and usage of e-commerce by SMEs within the retail sector in Johannesburg.

## 2. Methods

The study employed quantitative method to identify driving forces and reasons behind the adoption of e-commerce within the selected SMEs in Johannesburg, South Africa. The target demographic included retail sectors of Johannesburg SMEs, which were identified as companies with less than 250 employees. Most of these businesses used e-commerce, while few did not. About 101 retail stores were selected from Johannesburg North using purposive sampling technique to find fit-for-purpose respondents. The structured questionnaires were administered to the owners, managers and employees of the selected retail stores. IBM SPSS version 25 was used for statistical analysis of data.

## 3. Results and Discussion

All the responses were received in complete and usable form, providing a response rate of 100%. Figure 1 highlights that about half (46.5%) of the respondents are business owners, followed by managers (28.7%) and consumers (12%). The majority (86%) of the businesses have existed not longer than 15 years, only remaining 14% have existed for more than 16 years (Figure 2). Most of the e-businesses started with the advent of Internet, while some older businesses also incorporated online departments to stay competitive. Figure 3 presents number of employees in the companies, which indicated that more than 53% have 1 to 20 employees, followed by 27% with employees between 21 to 50 and only 5% indicated to have employees between 151 to 300.

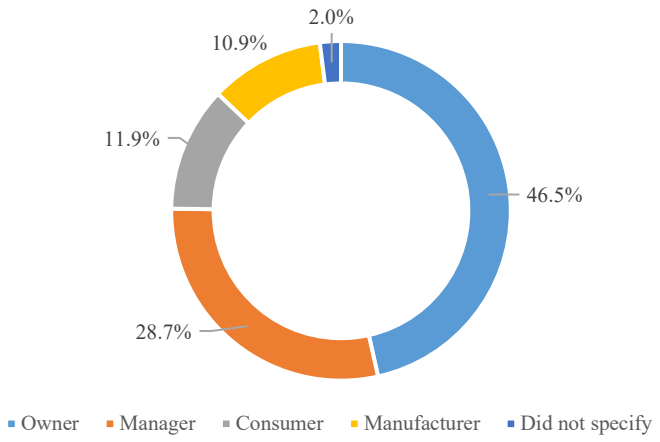


Figure 1. Position of the respondents in the company

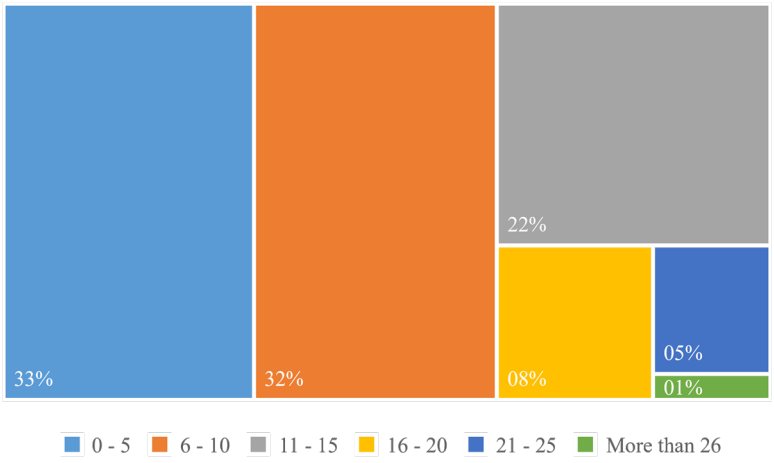


Figure 2. Number of years of business existence

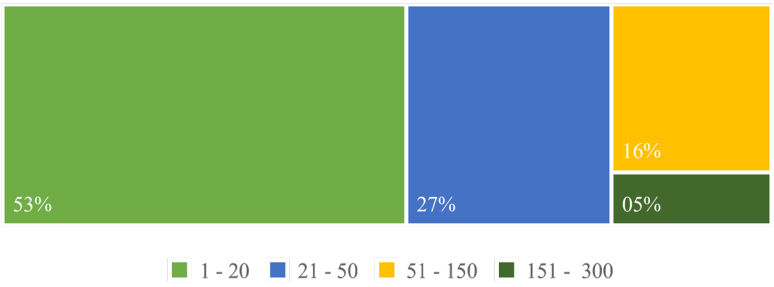


Figure 3. Number of employees

### 3.1 Forces Driving the Adoption of Technologies in the Business

The business owners were identified as one of the major driving forces behind the introduction of electronic technology within their companies. About 44% of the respondents identified owners to be central to the initiation of technological implementation in their businesses (Figure 4). It was notable that nearly one in five consumers was often seen as the driving force behind the introduction of technology, which indicates that needs and suggestions of consumers are vital in the adoption of technology. Furthermore, business managers (15%), employees (13%) and external suppliers (10%) also seemed to influence the adoption of the technology in these SMEs.

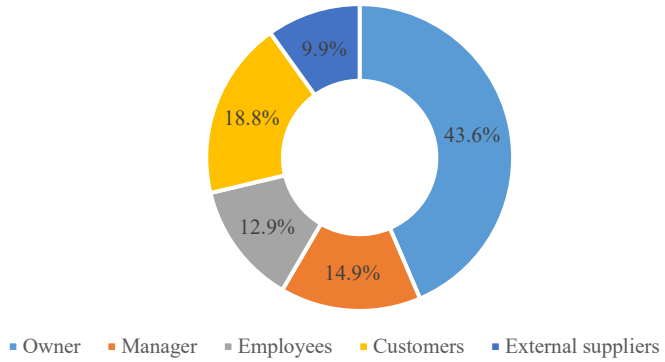


Figure 4. Forces driving the adoption of technologies

### 3.2 Reasons for Adopting Technologies in the Business

Table 1 highlights the major reasons behind the adoption of electronic technologies by SMEs. The table also presents the mean values and the rank order based on Friedman's test. Ten potential reasons were presented to the respondents, who identified business associate (27%, rank 1) and competitive advantage (26%, rank 2) as the most dominant reasons, followed by customer preferences (24%, rank 3) and attraction of the customer base (22%, rank 4). No one indicated tax costs, and only 4% highlighted labor costs as a justification for adoption.

Table 1. Reasons behind the adoption of technologies

| Variable | Frequency | % | Mean rank | Rank order |
|---|---|---|---|---|
| Recommendation from business associates | 27 | 26.7 | 6.73 | 1 |
| Influence of media/ business platforms | 15 | 14.9 | 6.08 | 5 |
| To align business with Industry 4.0 technologies | 12 | 11.9 | 5.92 | 6 |
| To have a competitive advantage | 26 | 25.7 | 6.68 | 2 |
| To be able to access the Internet | 10 | 9.9 | 5.81 | 7 |
| For increased customer base | 22 | 21.8 | 6.46 | 4 |
| To accommodate customer preference | 24 | 23.8 | 6.57 | 3 |
| More options from online offers | 8 | 7.9 | 5.70 | 8 |
| Lower labor cost | 4 | 4.0 | 5.48 | 9 |
| Tax costs | 0 | 0 | 5.26 | 11 |
| Others | 1 | 1.0 | 5.32 | 10 |

Table 2 presents the result for Friedman test conducted to compare mean ranks to understand the importance of reasons for adopting technologies in businesses. The result indicated statistically significant difference between the reasons for adopting technologies with $\chi 2 = 80.975$, $p<0.000$ (Table 2).

Table 2. Friedman test

| Test Statistics[a] | |
|---|---|
| N | 101 |
| Chi-Square | 80.975 |
| df | 10 |
| Asymp. Sig. | .000 |

a. Friedman Test

### 3.3 Application of Common Technologies in the Business

Figure 5 presents common applications of technologies within SMEs under study. It highlights that the SMEs under study are using technology for different purposes, including communication, administrative processes and promoting their products online. Majority of the respondents (96%) reported the availability of Internet connection in the premises within their organization, and 85% indicated possession of official enterprise website. It was observed that the use of official websites to promote the company's products are popular among e-businesses. About 78% of the respondents reported to use the Internet to search for potential suppliers, while 77% reported to use the Internet for sharing information between the company and the government tax agency and also submitting online tax returns. Majority of the respondents also mentioned using technologies for administrative procedures (84%), and communications (e.g., email) (81%). The findings highlighted a high usage of basic technologies in SMEs.

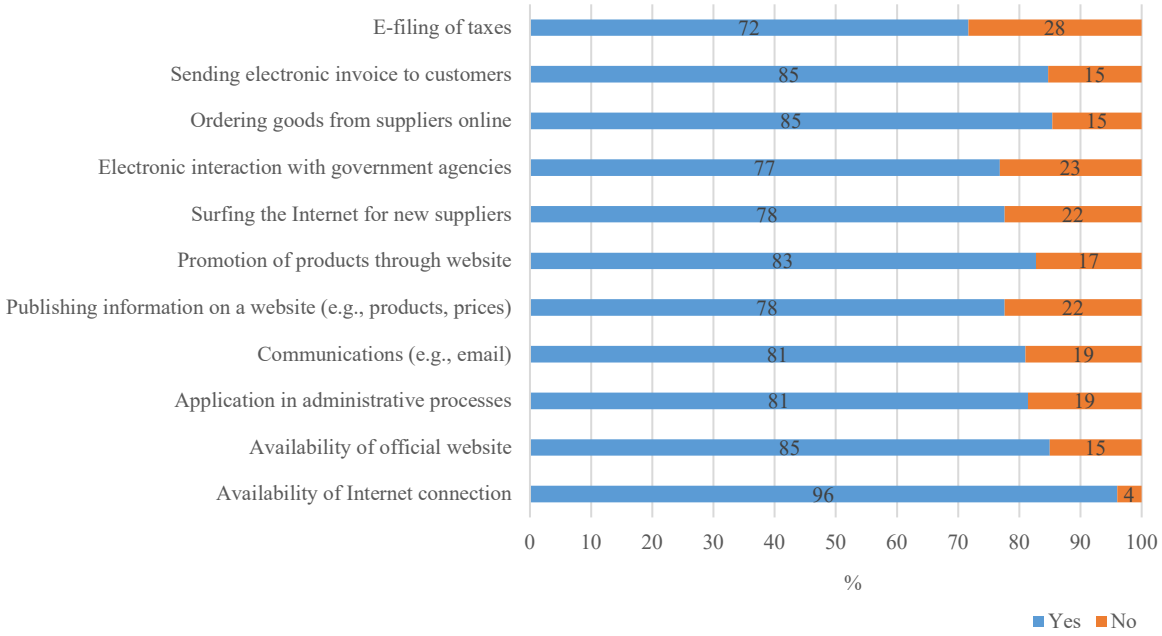


Figure 5. Application of technologies in businesses

## 3.4 Discussion

E-businesses can be run and operated by fewer number of people or even by a single person as opposed to traditional organizations. The owners are central to the initiation of technology adoption in their businesses; however, e-businesses are also being driven by customers. This internal drive has enabled the successful adoption and usage of technology for SMEs under study. Frequent updates and easy access to information and products being offered by businesses has boosted customer base. Increasing customer base and role of media platforms has provided competitive advantage for e-businesses. Most businesses use some form of technology to run their operations, for instance use of Internet and official websites to promote products and to search for potential suppliers were popular among the businesses. Adoption of technology has enabled businesses to receive and send electronic invoices, online communication and transactions with consumers and suppliers, as well as many other administrative processes including e-filing of taxes.

## 4. Conclusion

Several studies have found that companies in developed nations have benefited from the lucrative opportunities of e-commerce; however, limited studies have assessed how companies in developed countries can benefit from the opportunities associated with e-commerce. The purpose of this research was to determine the driving forces and reasons of the adoption and usage of e-commerce in SMEs within retail sector of Johannesburg, South Africa. The findings revealed that company owners are the driving force behind the introduction of electronic technology, which indicates that owners are taking a positive initiative regarding e-commerce. Additionally, business associates, employees and consumers have influenced the adoption of electronic technologies. Several benefits provided by e-commerce will be useful for successful running of businesses and their operations.

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